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ABSTRACT

The European Multimedia Conference and Exhibition (EMCE) was triggered by the need to stimulate debate and advance awareness of multimedia, open education, distance education, and training on a European scale. Common concerns in the European Community (EC) were expressed. The following are conference sessions, topics, and presenters: (1) opening session address by G. Souflia; (2) inaugural speech by V. Papandreou; (3) plenary sessions on skills needs and professional qualifications; (4) the state of affairs and perspectives on open university networking in Europe; (5) existing models, structures, and solutions in higher distance education in Europe; (6) training partnerships with enterprises and the example of SATURN; (7) training partnerships with enterprises; (8) applications of technology to training for business needs; (9) concepts and tools in courseware production and delivery; (10) roundtable sessions on broadcasting companies and their roles in education and training policies and on the use of satellites for education and training; (11) a review of reports from the sessions; (12) closing session remarks from G. Romeos, M. Evert (as presented by C. Kanelopoulos), A. Kalantzakos, S. Argyros, and A. Triffylis; and (13) end of conference remarks by D. Korsos and F. Nikolmann. Attachments describe the exhibition and the conference agenda. (SLD)

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A Multimedia Approach for Education and Training

THE CASE OF EC REMOTE AREAS

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Conference Reader

ATHENS
26 - 27 SEPTEMBER 1991

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European Multimedia Conference and Exhibition

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A Multimedia Approach for Education and Training
Conference Reader

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Table of Contents

European Remote Areas at the Heart of the EMCE p 5

Opening session
- Address by the Minister of Education, George Souflia
  presented by Mr. Charalabopoulos
  Secretary-General of the Greek Ministry of Education p 7

- Inaugural speech by Vasso Papandreou
  Commission of the European Communities –
  Employment, Industrial Relations and Social Affairs p 9

Plenary session
Skills needs and professional qualifications p 14

Parallel session I
Part A – State of affairs and perspectives of open university networking in Europe p 16
Part B – Existing models, structures and solutions in higher distance education in Europe p 16

Parallel session II
Part A – Training partnerships with enterprises – the case of SATURN p 18
Part B – Training partnerships with enterprises p 20

Parallel session III
Part A – Applications of technology to training for business needs p 21
Part B – Concepts and tools in courseware production and delivery p 22

Round table
Broadcasting companies and their role in education and training policies and initiatives p 23
The use of satellites for education and training: problems encountered so far and recommendations for solutions p 25

Presentation of reports from sessions p 26

Closing session
- Giorgios Romeos
  Vice-President of the European Parliament p 28
- Address by the Minister of the Presidency, Militiadis Evert
  presented by Charalmbos Kanelopoulos
  General Secretary of the National Centre of Public Administration p 30
- Aristidis Kalantzakos
  Greek Minister of Labour p 32
- Stelios Argyros
  President of SEV, Federation of Greek Industries p 35
- Antonis Triffylis
  Head of Mrs. Papandreou's Cabinet p 37

End of Conference
- Dimitrios Korsos
  President-Managing Director of ERT, SA. p 38
- Friedhelm (Fred) Nickolmann
  President of SATURN p 39

European Multimedia Exhibition p 40

Conference Prgramme p 43

European Remote Areas at the Heart of the EMCE

September 1991 saw the first edition of the European Multimedia Conference and Exhibition in Athens. As a follow-up of a number of activities in the field of open and distance education and training, the Commission of the European Communities (CEC), Task Force Human Resources, Education, Training and Youth, responsible for the initiative, called on three institutions to share the organisation of the event. These were SATURN, Europe's Open Learning Network, Intercai-Multimedia Skills and ERT, Greek Radio and Television (the former two supported by the Research Centre of the Athens University of Business and Economics). The event also had the support of the Greek Ministry of National Education and Cults, Ministry of Labour and SEV, the Federation of Greek Industries.

The EMCE was triggered by two requirements: the need to stimulate debate on a European scale on the actual state of affairs of multimedia, open and distance education and training and thereby gather relevant trends of opinion and recommendations of use to Member States, national institutions and the CEC for further involvement in this area; and the requirement to give a massive push to the state of awareness of open and distance education and training in remote areas, normally less informed and taking little part in developments in this field, whether at national or European level.

The programme of the Conference proposed a range of subjects of relevance for remote areas and presented a set of speakers from different Member States – notably Ireland, Portugal, Spain, France, Italy and Greece, but also United Kingdom, Germany and the Netherlands – who either addressed the case of their institutions with respect to a given theme (training partnerships with enterprises, satellite broadcasting, distance teaching university networking, multimedia applications for business needs) or addressed a specific topic in the light of its national development (skills needs, the use of radio and television broadcasting for educational purposes, etc).

Great concern was put into ensuring that the themes discussed would be of relevance to the problems of remote areas, which was also evident in the Exhibition, through the multimedia training products on display.
With an initial limit of 200 invited participants, half of them from Greece, the Conference was attended by over 250 persons: high-level representatives of national governments, major European industries, universities, satellite operators, radio and television companies, national training authorities, distance teaching universities, etc. The Exhibition, too, was very well attended, with visits from representatives of sectors of the Greek economy interested in the multimedia solutions presented.

The range of topics covered by the Conference and the technologies and products shown in the Exhibition resulted in a very successful event in terms of sharing of experiences and bringing up of common areas of concern, such as:
- the lack of adequate training provision in relation to the increasing skills needs
- the wider use of radio and television for education and training purposes
- the need to solve urgently some of the barriers satellite operators are faced with (technical, regulatory, etc.)
- the difficulty in disseminating advanced training solutions widely, especially to small and medium sized enterprises (SMEs)
- the need for further development of links between universities and enterprises.

A number of conclusions and recommendations were put forward, and these are included in this brochure. Nevertheless, it should be stressed that the CEC, notably through Vasso Papandreou, the Commissioner for Social Affairs, committed itself to further support the implementation and development of multimedia, open and distance education and training, especially in remote areas of Europe, by means of concrete initiatives to be proposed in the short term.

In this regard, the first major step has been the recent approval by the Commission of the 'Memorandum on open distance learning in the European Community' document and its discussion by the Council of Ministers.

As far as Greece is concerned, the clear interest raised by the EMCE is most encouraging; there is an increased awareness of available education and training solutions and the EMCE has provided valuable perspectives for development of work in collaboration with institutions and associations in Europe. In this context, Friedhelm (Fred) Nickolmann, President of SATURN, proposed in his closing address a concrete action: setting up a European study and training centre in Greece, which would enable thorough consideration – in conjunction with major European organisations – of the most appropriate open and distance education and training system for the country.

Judite Nozes
Vice-President of SATURN
EMCE-Conference President

Opening Session

- *Address by the Minister of Education, George Souflia*
  presented by Mr. Charalabopoulos
  Secretary-General of the Greek Ministry of Education
- *Inaugural Speech by Vasso Papandreou*
  Commission of the European Communities –
  Employment, Industrial Relations and Social Affairs
- *Rob Stol*
  Dutch Ministry of Education, Presidency of the Council of Ministers of the EC

- *Chair – Judite Nozes (Portugal), Vice President of SATURN*

Address by the Minister of Education, George Souflia presented by Mr. Charalabopoulos, Secretary-General of the Greek Ministry of Education

1992 constitutes a turning point in the future of the countries that make up the European Community. This year has been earmarked as the deadline for economic integration with the institution of free movement of labour, capital, goods and services. This development marks the most important step made in the course of the European Community.
It is obvious though, that even if these economic and social targets are instituted, their implementation depends upon the realisation of the concept of European integration.
With the prospect of an internal market in the European Community and the transition to a post-industrial society, a society of knowledge and information, the importance of education and training becomes increasingly apparent to all for the development of Member States and the Community as a whole, and to ensure social convergence.
The maintenance of social convergence and cohesion forces us to substitute passive learning for active learning and critical thought, giving creativity and inventiveness the position they should have. We must equally ensure that all methodical and fundamental knowledge gaps are filled. Those techniques of learning, although considered indispensable, rarely constitute the object of rigourous training, and we must give them appropriate emphasis.
The structure of our education system does not have the flexibility required to satisfy the needs arising for continuous education and training. It is also difficult under current conditions to provide high standard education and re-training for adults and to the population at large. We are, in addition, not giving any choice to people living in remote and sparsely populated areas. Let us consider this final point more closely. The population spread of our country obstructs the efficiency of equal opportunity policies, a case in point being lack of access to education.
In the last few years, attempts have been made to supply education to a wider cross-section of the community, making teaching complementary to individual needs. These efforts, according to Cross, shift the focus from ‚Education for all' to ‚Education for individuals'.

A possible solution to the aforementioned issues is the use of information technology, tele-broadcasting and telecommunications in the education process. Given the rapid social changes that will occur after 1992, the future of the Community directly depends on the development of the use of information for its economic, social and cultural health. The emerging needs of professions within the labour market, which are not confined solely to the 320 million people that make up the Community, impose new models and

demands on the education and training system with respect to its qualitative and quantitative indicators.
New professions are emerging on the horizon and new specialities are needed. Human resources must be ready to adapt promptly to the demands of a rapidly changing labour market, so that Europe can successfully confront fierce international competition in all areas. • ...
The continuous and significant change in all aspects of modern life, which have resulted from the surge of knowledge, is an objective reality which a young person must confront now and in the future. This reality, in conjunction with the globalisation of the economy and the gradual decline in manual labour, creates the need for continuous education of all people throughout their lives, so that an individual can become an effective participant of a society characterised by rapid change.
The education and training systems must correspond to the rapid development of knowledge, especially in the areas of technology and science, but also to the increasing supply of technical means. These means are required for the continued learning, re-training and updating of skills. The education and training systems must take into account new methods of offering knowledge, the approach to and exchange of infor-mation, and must confront the fundamental changes which are currently occurring and are transcending borders and systems.

The use of multimedia adopted for the needs of learning can dynamically enrich education units. Traditional institutions can, via distance education reach new audiences such as the home and the workplace, special groups (i.e. people with special need, and can teach skills which are related to their position at work.
As satisfactory as current education systems might be, it is calculated that the average European will need to be re-trained at least three or four times during his/her life.
A way must be found to make this happen effectively and at low cost. For this reason the cooperation of all Member States and the active contribution of the European Community is needed. The lesser developed countries must learn from the experience of the developed countries, while the Community must give the appropriate help required to attain this goal and to breach the difference between Member States.

Delegates to the Conference,
Our time is characterised by a revolution in knowledge, free communication and influence between people, technology and its applications but also by the questioning of current values. Within these conditions, the updating of education is a priority.
The coordination of education and training programmes together with the needs of the national economy and the objectives of the European Community is required urgently.
The connection between the school and the productive sector is of critical importance.
Perhaps what education needs most today is to incorporate within the philosophy of learning pluralism in knowledge and the means of technology in order to realise the school of the future.
The Conference coincides with the announcement by the Education Department of a series of recommendations for the improvement and modernisation of our educational system, and the institution of an organised system of vocational training which is currently absent between primary school and higher education institutions.
At this stage I would like to point out that amongst the recommendations made is included the creation of a Greek Open University with the participation of universities and other organisations. It is encouraging to see that certain bodies such as the Athens Council have already demonstrated support by completing the preparatory work required in order for them to participate in this plan.

In conclusion, I would like to welcome you to this Conference and wish you an enjoyable visit and success in your work.

Inaugural Speech by Vasso Papandreou Commission of the European Communities – Employment, Industrial Relations and Social Affairs; Human Resources, Education, Training and Youth

• It is indeed a real pleasure for me *to inaugurate the work of this very important conference* and to welcome all of you, who came here to examine the current state of affairs and the opportunities offered by open and distance learning.

• As time goes on, the conviction that *the European Community must invest massively in its human resources*, becomes even stronger, in order that it should be able to confront successfully the technological and industrial challenges of coming decades... It is particularly worrying that our main competitors in international markets are investing more in education and vocational training than the Community. The rate of people studying in the area of technology in Europe is only 39 students per year for every 100.000 residents, whereas in the USA and Japan it is 77 and 76, respectively.

• The conviction that *investing in human resources is a strategic choice* stems from the fact that the developments occurring in science and technology, with their multiple applications in the business world, administration and everyday life, are eroding ever more swiftly the qualifications and skills of the labour force and are creating the need for frequent re-training. Therefore, *education and training are justifiably considered the fundamental determining factors of economic success*. Investments in the area of research and development together with improvements in technology will not bring the expected results unless these are accompanied by corresponding developments in the field of human resources.

• Following this general conclusion, one should think the intra-Community problem of the unequal economic and social development of the Community's peripheral regions. *The need to improve the provision of education and training in the less developed areas becomes imperative. Better provision of education and training means a better contribution to the economic cohesion of the Community.*
Undoubtedly these factors highlight the need to improve not only the level of qualifications that the workforce of the future has to have, when it enters the labour market, but also to address the modernisation and improvement of the formal qualifications of the existing labour force, by providing training to an ever increasing number of people in the labour market. This will secure a better link between education and training and economic life so that an optimal belance might be achieved between knowledge and its practical applications.

• *Open Distance Learning is considered an important element* in the attainment of the objectives I have referred to. The advantages are obvious:

Firstly, the *flexibility* of open distance learning means that students and trainees have greater access to learning compared with traditional ways of teaching. In some cases this flexibility arises from the content and the structure of the courses and in other cases from the place of teaching, time available, absorption rate of knowledge by trainees, the type of assistance provided or the evaluation used. The advantages become greater if one considers that a need exists to improve the general level of education and initial training in remote and low population density regions, a need which is simultaneous with a continuous increase in demand on higher education and further training. It is obvious that this situation cannot be confronted with a simple increase in the number of con-ventional education and training institutions, because as I have suggested conventional methods of teaching are not sufficiently flexible to allow the public to take advantage of the education and training offered.

Secondly, open distance education can function *independently or be part* of other systems of teaching. I am talking specifically about systems of training where multiple

information means are used and which are supported mainly by new information and communication technologies (satellite broadcasts, interactive video disks, a combination of various media).
A third advantage of open distance learning is that it can be used by individuals who are away from each other, or by groups in a particular area or particular company, or in a group of small business enterprises. It can *transcend the limits of regions or countries.*

Fourthly, together with the external contributions of high quality and the use of multimedia, open distance education contributes to the *qualitative improvement* of education and training programmes as a whole. In this way, knowledge transfer and technical know-how becomes easier.

Finally, an equally important element is the fact that open distance education can simultaneously *broaden the chances* of participation in education and training, basic and continuing, at all levels – a fact which constitutes the basic prerequisite for the strengthening of economic and social cohesion.

• Therefore no-one should be surprised by the fact that *many Member States have taken up specific initiatives to encourage open distance learning and training.* As we all know in some countries this effort has mainly concentrated on the formation of specialised institutions within higher education like those first established in the United Kingdom and later in Holland, Spain and Germany. Open distance education has also entered the training field to satisfy specific needs, for example, in the United Kingdom ‚Open Tech', in Portugal FUNDETEC, or in France with the development of a training relationship between the Federation of Small Businesses (CNAM) and the National Centre of Distance Education (CNED).

• Despite these developments, *there has not yet been a widespread use* of open distance education *at the elementary level nor at the basic vocational training level* even though the private sector has expressed interest in developing multimedia information packages to be used in training. Let me also point out that a special interest for these new teaching methods has been shown by large companies with multiple activities in the service sector.

• Within this framework I would like to stress *the fundamental role played by many European organisations* which through the years have shown the most impressive progress in this area. It is not possible to refer to all but I will mention SATURN which brings into contact primarily enterprises and distance learning institutions such as open universities; EuroPACE – a European conglomerate of high tech companies and universities which develops continuous training programmes via satellite; EUROSTEP – a group of satellite education and training users; and EADTU, the European Assocation of Distance Teaching Universities. All these organisations have received financial assistance from the Commission, and together with some television networks play an important role in promoting open distance learning.

• Before I go through the complex problems which have to be faced, and the foreseeable prospects, I would like to outline briefly *the current link between the Commission and Open Distance Learning.* The Commission regards this area as an activity which complements priority and developing programmes. COMETT is such a programme, within whose framework similar systems are used as an important means of providing continuous training in the field of advanced technologies via the cooperation on a Community level between universities and industries. Other *Community programmes*, like, for example, LINGUA (where open distance education contributes significantly to the development and exchange of linguistic knowledge in Europe), TEMPUS (with the recent establishment of the European Distance Education Network and the formation of European study centres in the largest cities of Central and Eastern Europe), or the Community training programmes like EUROTECNET or FORCE. Finally, we should stress the fact that Community initiatives undertaken within the framework of the Structural Funds offer the opportunity for European networking between innovative training projects.

• A special mention has to be made to the DELTA Programme, within which *research is being carried on how advanced technology may help open distance learning.* This programme, which is based in a network of collaborative projects applying on a test basis new technologies, is aiming to achieve compatibility between hardware and relevant software (courseware) and also to reduce unit costs, in order that technology applications become affordable by the education and training market at suitable prices. The European Commission is aiming at the development of these supporting technologies whose objective is the creation of flexible, efficient and co-operative European telematic centres in the field of open distance learning.

• All these developments, inside the Member States as well as at Community level, are encouraging. *The Commission, with valuable support from the European Parliament, encourages and promotes any positive initiative in the field of open distance learning.*

• Any further progress will also depend on the recommendations made by you during these two days. However, I would now like to draw your attention to *the possible framework of community initiatives* in this very important field:

Firstly, and most notably, I believe that it is important for Member States, with the help of the Community, *to support the creation of the appropriate basis for training in disadvantaged, remote and rural Community regions.* Centres for the support of local and remote areas should be established, which will constitute the means for the connection between distance learning institutions and the training centres that support these local and remote areas. In this way we can meet the specific training needs of local industry by importing and demonstrating systems of open and distance training. These *support centres can provide appropriate help to practitioners* and especially to those company employees who do not receive other support. They could also disseminate information concerning open learning on a local and regional level which, in turn, is provided by national or international organisations.

Opening Session
Commissioner Vasso Papandreou (right) addressing the Conference.
To her right the Conference President Judite Nozes, SATURN.

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Secondly, it is important *to promote the provision of open learning material throughout Europe*, in order to cover the need for training in small companies and the important sector of industry. Within this framework, and by using our experience from the COMETT programme, we must encourage the development of pilot policies for European cooperation. These will be formed by professional or industrial groups and will be based either on new courses and training material or the adaptation of older material. The Commission must also encourage training sessions in areas of strategic importance to the Community; and primarily in those traditional sectors of industry which face serious problems of restructuring, such as the textile industry, farming, etc. *European consortia* must be created for this reason, made up of those enterprises interested and distance training institutions. With this in mind, the Commission must help the establishment of international projects drawn up to support and evaluate models of distance learning as well as of educational materials developed in this field by big companies for the benefit of their staff.

Thirdly, it is imperative I think, *to encourage cooperation between open distance learning operators*, in order to ease the setting up of *transnational telecommunication structures* for information exchange and course delivery, as well the proper exploitation of modern information and telecommunications technologies, as for example, local networks, satellite communication and telematics. Indeed, without interoperability of different types of software and compatibility of hardware systems and relevant training methodologies, each one of us will still remain operating in his little corner, without arriving to create the necessary economies of scale.

Fourthly, there is an urgent need to confront certain issues which may seem of little importance, but may either simplify or complicate the development of open distance education on a European level. I am referring to *the need to guarantee that the professional qualifications gained via open distance learning will be mutually recognised.* The general directive that has been decided upon by the Council can create certain problems, in this case because the duration of courses is a major prerequisite for mutual recognition of diplomas.

We must *examine then the internal legislation required in order to make possible the supply of open distance learning services.* In the broader European internal market competition will arise between suppliers, especially if we take into account the measures announced by the Commission in the Green Paper on telecommunications and its Memorandum on satellite systems and services. It is important to secure the existence of local support mechanisms for trainees by their local or national suppliers so that it becomes impossible for a broader European monopoly to operate. Furthermore, while the *free market encourages competition* between suppliers, it simultaneously creates the problem of guaranteeing quality and protection of users who buy these services from other Member States. For this reason, the need may arise for the Commission to cooperate with consumer organisations in order to examine the legal parameters that will ensure quality service. This is a complex issue which is closely linked with another one, equally delicate, i.e. the harmonisation of copyright laws as well as with the taxation aspects of all these training „goods and services".

• What lies before us is an ambitious but also a highly demanding programme. But I can assure you that we will use the valuable recommendations that will result from your talks today and tomorrow, and that *the Commission will develop some supporting initiatives*, so that, on the one hand it should encourage open and distance learning and its use as a tool to face the pressing needs of our times and on the other hand to contribute to the strengthening of the economic and social cohesion of the Community. Although it is too early for me to announce the details in relation with our initiatives, you may be sure that the Commission will encourage during an initial phase some coordinated activities, inside the Member States as well as at Community level, in particular offering support (in the context of its limited resources) for European organisations and companies, already active in this field, on the basis of a Communication to the Council and the European Parliament, which is to be submitted towards the end of the year. We will also need to determine the plans pertaining to open distance learning, especially those being

developed under the COMETT programmes, EUROTECNET and FORCE, while at the same time it is certain that the ERASMUS programme will fully use the possibilities arising from this approach.

- Let me add something more *concerning my compatriots*. It is obvious that it is you who will decide the path you will follow concerning open distance learning. *The Commission cannot impose any specific model.* I believe that the basic prerequisite is to acquire a good working knowledge of what is happening elsewhere in the Community and to collect appropriate data from all interested parties, especially in the field of education and training, from the producers and the users of training materials. I think a *working party* should be formed on this basis to devise a programme concerned with what can be achieved in the near future, a programme which is realistic and ambitious but broader than individual actions. This planning must be founded on the principle that the experience of other countries, whether good or bad, can be valuable.

Currently *in Greece there is an on-going wide shared reflection* (covering the man in the street as well as the Ministry of Education) on a wide range of topics of strategic importance for Education. On the one hand, there exists the severe social and economic problem of the concentration of human resources that cannot be absorbed by the labour market after completing their primary, secondary, or worst of all their tertiary institutions, while at the same time approximately 30,000 students are studying overseas, of which 19,500 are undergraduates and 6,500 are postgraduate. Yet, we find ourselves in the absurd situation, where there is a demand for medium and high level managers in the industrial and service sector which cannot be fulfilled, while a mass of unemployed cannot find a job.
Open distance education and training can contribute positively to diminishing the impact of these problems.
In the first place, a number of secondary school graduates who have not been admitted into higher education institutions might be able to study at an open university. We might add to this number those undergraduate Greek students who are about to undertake higher education studies abroad. Via new education and training techniques and with the cooperation of the industrial and services sector, a substantial number of students and workers who do not have appropriate skills must go through education and re-training (continuous education) in a series of new work specialisations which are not offered by the Greek education system or are very limited. This second solution requires the establishment of a number of technical centres, for all levels of training, and with new distance education technologies.

(Community support and participation, other than technical assistance and exchange of experience, is currently limited to technical help in the form of exchange of experiences, and the funding by existing instruments as e.g. the Social Fund, EUROFORM type initiatives, and programmes like COMETT, FORCE, ERASMUS and LINGUA.)

- This Conference is just a first step. We have to see further and *define priorities*, as well as to *identify the key issues*. We also have to *secure the best possible coordination* of all the initiatives undertaken here and there, aiming at avoiding the fragmentation of our efforts, at making available the best possible expertise and at concentrating resources at the level of institutions, companies, networks and Member States. It is your turn now to take over this initiative and work hard. I am sure that your efforts will be rewarded with success. The times are demanding us strongly to go this way.

Thank you.

Plenary session

Skills needs and professional qualifications

The general situation in Europe

- Christian Dambrine (France)
  Délégué Général ANRT – Association Nationale de la Recherche Technique and Member of IRDAC

The situation in Greece

- Panayotis Anastassakos, PLANET
- Round table on the situation in other countries:
- France – Amid Bendouba
  Délégation à la Formation Professionelle
- Ireland – Paddy Duffy
  FAS – Foras Aiseanna Saothair
- Italy – Livio Pescia, IRI Group
- Portugal – Artur Pereira da Mota
  Comissão Interministerial para o Emprego
- Spain – Paloma Refolio Abella
  Instituto Nacional de Empleo

- Chair – Xenophon Constantinidis (Greece)
  SEV, Federation of Greek Industries

In this first session, the debate was centred on the fundamental issue of the growing skills shortages in Europe and on the ways this problem has been tackled up to now, or could be in the short as well as in the longer term, especially in the countries of the European periphery. Another point of the debate was the contribution of multimedia training in addressing the skills needs problem, where some countries have had already some very valuable experience.

The overall picture, as far as Europe is concerned was set by the presentation of the outcomes of the IRDAC Report on Skills Shortages in Europe. The report indicates that Europe will be facing important shortages of highly qualified and skilled labourforce, as a result of a number of factors, among which one may underline the present demographic trends as well as the poor adaptation to a constantly changing industrial and technological environment. Specific data comparison undertaken in the report indicates that Europe is severely lagging behind its main competitors, USA and Japan, as well as the countries of the South Pacific Rim. Technological change has created a new situation in the world markets, where competitiveness relies mostly on the ability to integrate the global change mechanisms, through constant adaptation and upgrading of human skills at the forefront of this process, as their development determines labour productivity growth and hence the overall growth of the economy. As skill requirements rise, following research and developement and technological change, continuing education and training seems to be the only way to keep up with the developments, together with a number of measures to face the long term, such as raising the overall level of technological literacy, preparing for and understanding the world of work, and encouraging the pursuit of scientific and technical careers. IRDAC recommends the following actions:

- A serious analysis for skill requirements at European level, through thorough sectoral studies.
- A concerted action between all actors involved in training so that educational productivity improves. This interalia calls for a major structural effort in open distance learning.
- The launching of large awareness campaigns, in order to improve the image of technical training and industry at school level.

Confirming largely the findings of the IRDAC report, the special presentation on Greece highlighted many characteristics which are shared by and large by a considerable number of the Community Mediterranean regions: a large SME population, with a very small unit size, has to face enormous problems of competitiveness in the international business environment, as it lacks of the suitable know-how and is low skilled. This situation could only be reversed by a concrete set of policy measures, through a joint effort by the authorities, and the two sides of industry. This policy should rely mainly on sectoral actions, featuring a balanced regional spread, together with the adequate infra-structure. Technology-based training could greatly enhance this procedure.

During the Round Table which followed immediately after, it has been confirmed that the adequate response to the skills problem is a suitable mix of actions to undertake under a partnership pattern, which should involve parties on a transnational basis, since much has to be gained by the experience gained already existing at European level.

In this respect, technology-based learning and open learning may prove to be quite effective, as some pilot projects referred to by Round Table speakers indicate.

Parallel Session I

Part A – State of affairs and perspectives of open university networking in Europe

- Ulrich Battis (Germany)
  Rector of FernUniversität and President of EADTU
- Ralf Bartz, FernUniversität (Germany)
- Kevin Wilson, Open University (United Kingdom)
- Nicholas Fox, EADTU (The Netherlands)

- Chair – Coen de Vocht (TFHR)

Part B – Existing models, structures and solutions in higher distance education in Europe

- Mariano Artès-Gomez – UNED (Spain)
- Ann Wickham – National Distance Education Centre (Ireland)
- John Daniel– Open University (United Kingdom)
- Francesco Lata – Consorzio per l'Università a Distanza (Italy)
- Christiane Guillard – FIED (France)
- Armando Rocha Trindade – Universidade Aberta (Portugal)

- Chair – Marino Ballarin (Italy)

In this session various types of national institutions for higher Open Distance Education were presented.
These institutions are linked together on a European level via the European Association of Distance Teaching Universities. EADTU, based at Heerlen in the Netherlands.
EADTU was established in January 1987 by the principals of Europe's major distance teaching institutions to foster co-operation between European organsations dedicated to higher education through distance teaching methodology. It is the mission of EADTU to promote and to support the creation of a European network for higher level distance education leading to the development of the European Open University Network.
Members of the Association are non-profit institutions or non-profit consortia embracing independent higher education/teaching institutions and departments of universities/institutes who are responsible for distance (teaching) courses and research on distance education.
EADTU members are solidly based in national educational systems having their own students and legal graduation rights. Currently there are more than 325.000 degree students registered with EADTU members in the following EC-countries:
Belgium, Denmark, France, Germany, Italy, Republic of Ireland, Netherlands, Portugal, Spain, United Kingdom; in addition there are members in Norway and Sweden (and Finland since 1992).

EADTU's main objectives mentioned in this session were:
- the development of a common strategy for higher Open Distance Education in Europe,
- the establishment of a European collaboration in this field, and
- the installation of EADTU as the European Open University Network.

To achieve these goals a close cooperation between centralised and remote areas of the EC is aspired as well as between Central European and Eastern European countries.

Parallel Session II

Part A – Training partnerships with enterprises – the case of SATURN

- André Menu (France)
  Bull, SA and Chairman of SATURN Council of Management
- Friedhelm (Fred) Nickolmann (Germany), President of SATURN
- Judite Nozes (Portugal), Vice-President of SATURN
- Andrew Haldane (UK), British Association for Open Learning
- Glyn Martin (UK), Open University

- Chair – Armando Rocha Trindade (Portugal)
  Rector of Universidade Aberta and Deputy-Secretary General of EADTU

Part B – Training partnerships with enterprises

- Carlos Braga – FUNDETEC (Portugal)
- Yannis Zirinis – PACT (Greece)
- John Cromie – Information Technology Centre (Ireland)

- Chair – José Viana Baptista (Portugal)
  Vice-President of Grupo SONAE

A. Training partnerships with enterprises – the case of SATURN

Representatives from SATURN, Europe's Open Learning Network gave an overview on the SATURN Association and its activities. Reference was made to the needs and reasons for the foundation of SATURN, to its main objectives, and to results from specific projects and activities.

SATURN – Europe's Open Learning Network:
Working together for a better trained Europe

SATURN, Europe's Open Learning Network, is an independent European Association in the field of open, distance and flexible, multimedia-supported learning. Founded in the wake of the COMETT and the forthcoming DELTA initiatives of the Commission of the European Communities in 1986/87, its aims are:

to promote flexible training on a European scale, and specifically
- to provide information on
- to raise awareness of
- to support developments in
- to promote the use of

open, distance and flexible learning and training and the effective use and development of learning technologies and multimedia. SATURN is recognised as a neutral, unique partner for its expertise and services.
SATURN has established a European partnership between industry, commerce and training institutions with about ninety member institutions and an ever growing number of partners and clients from most European countries.
Today, SATURN is well recognised as Europe's Open Learning Network by European and national bodies, its partner associations and its member organisations. As one of the main promoters in the European market of open, distance and flexible, multimedia

One of the most important fields of action for EADTU at present is course transfer and joint course development.
There are two main problems that have to be faced:
one is the temporal and legal problem of intellectual propriety when transferring existing courseware from a specific country to another one, the other is the missing of a common system of certification (assignments, examinations, credit transfer).
A solution to this can only be a mutual agreement on these matters as already achieved in several models of European higher Open Distance Education.
A presentation on a large scale common course development followed as a concrete example: the „What's Europe" course which will be available by February 1993. This is the design of a full common European curriculum offering a high degree of flexibility to be adopted to specific cultures and for specific needs.
For the future of EADTU with regard to its operational and management level rather original tools of management have been developed based on a clear sharing of responsibilities between members of EADTU and based on the belief in strong personal commitments of a considerable number of people in the member institutions.

These remarks were complemented by descriptions of the work of FernUniversität, Hagen (Germany) and Open University, Milton Keynes (UK), the latter being the first distance teaching university in Europe.
In the continuation of the Parallel Session experiences and structures of other national institutions on higher Open Distance Education were presented including very positive experiences of institutions now working for a considerable time, like UNED (Spain) or NDEC (Ireland), successes and problems of newly installed institutions like CUD (Italy) or Universidade Aberta (Portugal), as well as FIED (France), an institution which is linking distance education departments of conventional universities from all over France.

Recommendations given in the light of these presentations stressed the necessity of a consolidation of the more recent models and/or institutions and a constant evolution towards the more experienced models.

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supported learning and training, SATURN aims at strengthening European collaboration and complementarity and at setting appropriate quality standards.
SATURN is working with a European, multinational, multilingual staff based at its Head Office in Amsterdam and at its members' locations.
During the parallel session, results from the EIOL project and the Quality Working Group were presented to the audience.

The SATURN Quality Guide to Open and Distance Learning

- The expansion of open and distance learning provision needs to safeguard its standards to achieve Quality and to ensure credibility.
- Education and training will be at a disadvantage if not participating in the current widespread initiatives to achieve and demonstrate Quality that are taking place in industry, business and commerce.
- Quality does not happen by itself: it has to be planned for.
- The achievement of recognised quality standards will become more important for transfer and accreditation of learning and courses.

The Quality Working Group's mission is to develop, evaluate and promote European Quality Standards in the application of open and distance (flexible) learning systems within education and training.
In this light, the SATURN Quality Guide aimed at key players who include learners, employers, training deliverers, learning material developers and information providers. It is based on codes of practice which include Quality Policy, Information, Specification of Outcomes and Evaluation and Improvement. It is set within a framework which considers each aspect before training, during training and after training and is presented as a set of check-lists aimed at facilitating good agreements between providers and users.

The European Infrastructure for Open Learning – EIOL – project results

EIOL, a projekt in the framework of the DELTA programme represents major work undertaken by SATURN from 1989 to 1991 as a core project in SATURN's strategy to promote Open Learning to the wider European audience – particularly countries and regions, such as Greece for example, which has major restrictions of access to education and training opportunities through the very wide geographic dispersal of the population.

EIOL aimed at developing favourable conditions for the establishment and growth of open learning within Europe – an infrastructure or market where open ways of education and training can be maximised and actually implemented.

There are four project areas within the EIOL project:
- Case-studies: to identify and document case-studies of good practice in open learning, both to publicise the potential of open learning and provide models of real experience for new users to follow.
- Market & Policy Analysis: to analyse the national and local policies which have implications for open and distance learning within the twelve Community countries, as well as a „snap-shot" picture of the open learning market in each country.
- Telecommunication Tariff Policies: to review the effect of telecommunication tariffs and regulations on open learning strategies; to present strategic recommendations to help the use of telecommunication networks to support open learning throughout Europe.
- Networks: to survey existing European networks concerned with open learning; identify distinct and complementary activities; establish good working links with and between them in terms of information flows, common projects, joint events and links between databases.

Summary of Project Conclusions Overall

The clearest conclusions derived from the project overall – and the contributions from each of the four actions – are that inequalities in traditional education and training opportunities (whether taken geographically or by subject) are reproduced almost exactly in the domain of multimedia supported open learning. This is not necessarily a classic North-South divide, but more a peripheral versus central European difference. For example, open learning is most developed in the United Kingdom, France, Netherlands and Germany and its potential not yet realised in Greece, Ireland (to a lesser extent), Italy and similarly placed countries.

In many countries surveyed, the market for open learning is non-existent. However, the market is unlikely to develop without positive action, either on the part of national governments or Community-supported initiatives.

Delivery of open learning and support to students in remote areas often depends on efficient and reasonably inexpensive communication systems. However, groups already disadvantaged by their remote location and inability to avail themselves of traditional education opportunities, are further disadvantaged as open learners by the high telecommunication costs. The EIOL work on telecommunication tariffs revealed a five fold difference in telecommunication tariffs across Community countries. Ironically, it is those countries and areas which most need the support of telecommunication links which have the highest tariffs and thus the greatest disincentive to adopt open learning as a solution to education and training provision. Greece, Ireland and Portugal have the harshest tariff regimes in the Community – The Netherlands the lowest.

Work in the network domain highlighted the importance of human networks (associations and groups) for open learning developments within the Community. Some networks, through their activities and projects, do much to raise awareness of open learning in low favoured areas. Others facilitate the sharing of resources and expertise. Additionally, an active human network, with representation from Northern and Southern Europe and providers and potential users of open learning, can act as a market „bridge" bringing the supply of open learning to those who can use it. In such a way, networks can act as catalysts within the open learning market and may in fact be the prime mover.

B. Training Partnerships with Enterprises – three case studies

Conference delegates were presented with three concrete examples of training partnerships between education and enterprises linking sectoral and regional aspects. In particular it appears that the partnership model may be very effective when there is a good intersectoral approach linking both big and small sized enterprises together with the two sides of industry. Interesting spin-offs have been realised even in the research and development area.

It is interesting to note that the partnership model faces many internal problems, regarding structures, and relationships with established structures. Nevertheless it provides the best platform on which to build a balanced approach to technology transfer and know-how, especially for the peripheral countries of the Community. Multimedia training may be very effective if used well. Training has to be user driven and not technology driven.

Another important point has been the usefulness of intermediary organisations in several levels between businesses, government and people: they have a role to play in training awareness and producing synergies.

The group also stressed the importance of total human development versus the sheer development of skills for technology.

Parallel Session III

Part A – Applications of technology to training for business needs

- Peter Vervest (United Kingdom)
  Intercai Multimedia Skills
- Debate with:
  Jesus Rueda, IBM International Education Centre (Belgium)
  Andrew Russell, Sun Microsystems (United Kingdom)
  Simon Shaw, Cambridge Training and Development (UK)
  Patrick Friesner, Interactive Information Systems (United Kingdom)
  Peter Howell, XEBEC Multimedia Solutions (United Kingdom)

- Chair – Chris Curran (Ireland)
  Director of National Distance Education Centre, Dublin City University

Part B – Concepts and tools in courseware production and delivery

- Freek Gastkemper – Open universiteit (The Netherlands)
- Rob Koper – Open universiteit (The Netherlands)
- Joel Greenberg – Open university (United Kingdom)
- Wolfram Laaser – FernUniversität (Germany)

- Chair – Chris Curran (Ireland)
  Director of National Distance Education Centre, Dublin City University

Parallel Session III. A

The group made a particular effort to address the typology in broad categories of the concrete technology options available today in the market, which provide for multimedia applications for education and training. Technology-based training has been a major research and development topic during the last few years (specifically examined under the Community's R&D Programme DELTA), since it has been realized that latest developments in communication and information technologies have completely revolutionized the way in which information is stored, treated and retrieved. This could not but have a major impact in the education and training field, where the manipulation of large amounts of data (under different forms) is a principal component of the delivery of the training message.

Participants were presented with a concise analysis of the technology options for Technology-Based Training, ranging from the more simple PC platforms, to the Multimedia option and the Integrated Systems. Those, combined with the data transmission networks and use of satellites, form a complete range of suitable technology for training. The development of the appropriate software is a crucial point, to be tackled preferably by an interdisciplinary approach.
As businesses are confronted with the dilemma of choice between available platforms, an evaluation grid has been proposed, drawing on several factors: maturity, cost trends, the number of users, the number of developers, the authoring tools provided as well as the number of suppliers. Some technologies appear for the moment as the emerging winners (such as the PC & Laservision platform), but no conclusions may be made as several other factors may determine the life cycle of the presented products, in a different way.

A major conclusion of the presentation was that, although the multimedia technology is there, awareness about its potential is low. This led to the major conclusion that an organisation of the demand side is now necessary, so that through proper raising of awareness and subsequent standardization policies, an optimization stage could be reached. As the remark about organizing the demand appeared somehow a contradictory process within the context of a free market, the example of the telecommunications development was given, where the Commission has done a remarkable job of standardization, thus enabling the market to take off properly.
Several recommendations have been formulated, addressed to the Commission, namely, the launch of an awareness campaign, the conduct of a thorough needs analysis, the study of the suitability of multimedia platforms for training and the study of appropriate standards.

The debate that followed stressed the importance of having a suitable mix of conventional and technologically advanced media, in order to arrive at an optimization of the training output. As both large and small companies use multimedia (though in a different way), one may be confident that this technology is no privilege to the big players. Once again the awareness problem appeared as a blocking factor among enterprises with a big potential for multimedia training: actions of sensitization have to be undertaken, in order to guide the future user in the multimedia world and actually show what the technology can do to optimize the training output.

Parallel Session III. B

1. Three different approaches from three major institutions: the Open University of the Netherlands, the Open University of the United Kingdom and the German Fernuniversität.

2. All these institutions are using multimedia systems, but it has to be recognized that there are different educational environments in the Member States.

3. The computer has been considered as an important tool in any multimedia educational system, but it should be integrated with other media that are available.

4. There is a need for a common educational setting regarding open distance education in the different Member States in order to facilitate transfer of courseware.

5. However, it is important to explore and to exploit the possibilities of joint development of courses for Europe-wide delivery.

6. It has been concluded that the major issues for future development of multimedia learning systems will be the reduction of the cost for the students, the improvement of access for students to computer-based learning systems, and the training of course developers, notably the academics, for multimedia applications.

7. It has been put forward that distance education should be considered as the major vehicle for the development of multimedia learning systems, and therefore should be supported by public authorities.

8. It has been stressed that special attention should be paid to the design of multimedia courses for the specific training needs of special target groups notably of the Small and Medium Sized Enterprises.

Round table

Broadcasting companies and their role in education and training policies and initiatives

- Léa Martel – EBU – European Broadcasting Union
- Spiros Nikolopoulos – ERT S.A.(Greece)
- Mauro Gobbini – RAI (Italy)
- Lucia Jones – BBC (United Kingdom)
- Claire Poinsignon – La Sept (France)
- Maria Emilia Brederode dos Santos – RTP (Portugal)
- Maev Conway Piskorski – RTE (Ireland)

- Chair – Dimitris Gemelos (Greece)
  Director of the Institute of Audio-Visual Media, ERT S.A.

The presentations stressed the major advantages of broadcasting in the field of education: referring as an example the potential of television and radio as powerful motivators in voicing the awareness of the public and putting topics on the public agenda: this includes education and training, as over 95% of the population including children over three years of age watch television „every day" or „almost every day".
Television and radio are accessible to all (rich and poor) and everywhere (cities and countryside), no specialist skills are needed to decode their messages, education via broadcasting is anonymous and can overcome initial barriers to further learning, and last but not least: education and entertainment are not incompatible.

These advantages are counterbalanced by some problems: the public service aspect of broadcasting is in danger of being eroded because of market forces: this means a reduction of broadcasting hours as well as budget cuts in several broadcasting companies. The success of major initiatives detailed in the round table has often been based on effective partnerships at the national level between broadcasters and other national agencies.

The value of such partnerships does not only lie in the field of finance but is related to the need of networking with *Education and Training Organisations* (public and private): in sharing advice, information and experience, in researching and finally in being able to evaluate the impact of such programmes as happens for example in Portugal and the United Kingdom).
Great experience has been developed by several broadcasters in the integration of radio and television with other media and the importance of such support has been stressed in all the presentations.

Although there was no time for discussion, the panel members have brought forward individually the following recommendations:
In the light of urgency, and extent of the task facing us, given the capacity of broadcasting to increase awareness and mobilise effort on a national scale, and considering the current pressures on broadcasting institutions, it is recommended to the Commission to provide means for *encouraging* and *supporting partnership* between educational institutions, training agencies, the broadcasting authorities and the industries and thus to address the problem and provide appropriate and regular services of *awareness, orientation* and *information* for selected groups and for the public at large in minority languages, technical training etc.
Co-production could provide the vehicle for such partnership to be created.

Given the need for innóvative strategies for education and training, to overcome the mismatch between existing and needed skills the European Broadcasting Union (E.B.U.) should assist in the exchange of appropriate examples, of the variety of ways peripheral regions have dealt with specific problems, targeted at learners and/or tutors and educational and career managers, in cooperation with the relevant experts from each of the peripheral countries, so as to raise the level of awareness of what is needed and what is possible.

Given the need for future citizens of Europe to have a broad cultural awareness and for all workers and businesses to have competence in a range of the communities' languages, and given the value of authentic broadcast materials, it was recommended that the Commission assists in finding means of making the exchange of such materials more readily available, and in particular to facilitate the use of new technologies to prepare and distribute the necessary learning follow-up materials. *The E.B.U. Working Party should be asked to develop and define these themes in detail.*

Lastly, it was proposed that the Commission should reconsider the establishment of the European Committee of School Television especially in view of the emerging needs in this sector in the Eastern European countries.

Round table

The use of satellites for education and training; problems encountered so far and recommendations for solutions

- Lyssimachos Mavridis, EUROSTEP
- Tage Frisk, EuroPACE
- Philip Crookes, Channel e
- Dario Natoli, RAISAT
- R. Guzzardi, CUD
- Friedrich von Stachelsky, DELTA

- Chair – Brian Groombridge (United Kingdom) – University of London

Conclusions

- Specialized target televisions (information, sports education) are already a reality and are likely to develop further in the future.
- Competition among satellite television providers may push educational programmes to less favourable time allocations.
- Appropriateness of satellite broadcast as an additional media to form part of a multi-media system.
- Need for a clear definition of the satellite network for Europe in the future (heavy versus light satellite platform) – covering the whole of Europe.
- Important resources required for all activities linked with satellite broadcast (market research: production of programmes: marketing, delivery etc)
- Fragmentation of the market
  * Multi: cultures
    educational systems
    languages
- The means of delivery of educational programmes by satellite are comparatively less significative than the users' requirements and points of view.
- Need for absolute transparency of technical standards in such a way that viewers do not have to be concerned with knowing the technical details at all.
- Copyright and technical standard issues are a long way from being clear and are still an obstacle.
- Need for the further development of appropriate methodologies for an integrated cost effective media approach (combining telematic networks, satellite broadcast, and the media as shown in the Exhibition)
  The satellite deliverers urgent need to identify clearly the user needs and requirements; the technological solutions already available are then easily adaptable to those needs and requirements.
- Absolute need to strongly involve the management of European companies over Europe since continuing education on the management and tech-nical areas are the vital key for competitiveness at national and European level.
- Co-operation in the development of educational programmes is the only solution for effective use of human, material and financial resources.

Presentation of reports from sessions

General Rapporteur – Giorgios Romeos
Vice-President of the European Parliament

Europe is facing its biggest challenge due to the lack of expertise in industry and in services. This is the result of not utilising, to the extent required, modern training methods, within a rapidly changing technological environment. *Open and distance education appears to be one of the most promising solutions* that will help us to address this disparity.
Distance education, in its various forms, compared with traditional forms, can increase the productivity of the educators, or alternatively can contribute to the improvement of the quality of education, particularly in the remote regions of the Community.
Remote regions can benefit greatly from the use of distance education technology, allowing technology transfer with the least possible problems.
The elimination of the problems caused by distance and remoteness is crucial in the course of learning. Direct contact can be maintained between Distance Education Support Centres and the learners, without the need to move them from their place of work.
The latest developments in the fields of informatics and telecommunications pave the way for *new methods of learning*, while interactive media, together with advanced information routing networks, offer learners possibilities that we could not imagine a short time ago.
A combination of traditional and modern forms – together known as Multimedia – is usually the best way to promote open learning and the best possible results can be achieved.

Distance Teaching Universities have proven to be original, flexible and reliable mechanisms for the improvement and development of new skills. The developing European networks of open universities is equally important as it is part of the same framework of networks that have been especially successful in the last few years (specifically with the Community programmes/ERASMUS and COMETT). Various models have been developed in the EC countries which have depended on the needs and the historical, economic and social conditions of each country. There are models with a long history and great experience, like the Open University of the United Kingdom, and many newer, though already mature, like those in Spain and Ireland, while others are relatively new, but with a particularly innovative structure, like those in Italy and Portugal, or with an informal structure like that in France. *The need for strengthening newer models was emphasised during the plenary session as was the need for continuous experimentation and further development of existing structures.*

The networks formed from the cooperation of (small) enterprises, together with the participation of universities, profit from the techniques of multimedia communication. Although heterogeneous, small networks of enterprises form in themselves a dynamic group which needs a definite support mechanism that will allow them to take full advantage of distance learning. This could include support from the government in their structural needs, or from other information sources, as well as the generation of stimulating ideas. Small Mediterranean enterprise networks have specific problems such as poor telecommunication facilities, a low rate of adaptation to new technologies, unspecialised personnel, lack of funds etc.

During plenary meeting discussions, *the need to create methods of cooperation between enterprises and universities was emphasised*, which would allow a segmented approach with a balanced regional distribution.
The issue of certificates and diplomas must be examined carefully to ensure high quality and to establish the validity of diplomas offered by distance education.

The developing *technologies of multimedia offer a great range of possibilities covering the needs of training*. The powerful message of education using multimedia, combined with traditional methods, can offer the greatest possible benefit to learners. Developments in hardware and software constantly improve the various techniques contributing to the face-to-face interaction of learners.
Even though the technology is already available, and ready to be used by enterprises, *a significant awareness campaign is needed* in order to create better demand. In the field of telecommunications the Commission can be effective by drawing up the appropriate guidelines as well as requesting feasibility studies and assisting in standardization.
Specific methods of production and delivery are needed so that trainees can have effective low cost materials. Important points for the substantial development of this material is the compatibility of programmes and their possible adaptation for new emerging technological systems.
The role of public radio and television organisations must be extended and especially that of educational television, because of its direct communication with a large segment of society. The role of ERT and the Office of Educational Television is today especially critical in promoting distance education in Greece.
The experience of organisations today proves the *importance of cooperation and co-ordination* with other interested parties in research, planning, implementation and reviewing successful educational systems. The support and combination of audiovisual means is also vital. The experience these organisations have in the use of multimedia must be exploited by the Community for Community training and education programmes, both to enable the transfer of technical know-how to less developed regions of the Community and to the countries of Central and Eastern Europe.

Finally, mention should be made to certain issues raised by the EBU Working Party *on satellite broadcasting of educational programmes*:

- It is imperative to clarify the role of the existing satellite educational network at Community level.

- The Commission must ensure the coordination of the producers of appropriate material, so that equipment and courses correspond to common standards to attain the best possible results.

- It is necessary to carry on with the analysis of special needs within European industry.

- It would be helpful if the Commission maintained the experiment involving Greek academics directed to areas of Northern Greece in the field of satellite broadcasts.

Closing session

- Giorgios Romeos
  Vice-President of the European Parliament
- Address by the Minister of the Presidency, Militiadis Evert
  presented by Charalambos Kanelopoulos
  General Secretary of the National Centre of Public Administration
- Aristidis Kalantzakos
  Greek Minister of Labour
- Stelios Argyros
  President of SEV, Federation of Greek Industries
- Antonis Triffylis
  Head of Mrs. Papandreou's Cabinet

End of Conference

- Dimitrios Korsos
  President-Managing Director of ERT, SA.
- Friedhelm (Fred) Nickolmann
  President of SATURN

- Chair – Ricardo Charters d'Azevedo, CEC, TFHR

Giorgios Romeos
Vice President of the European Parliament

There is common consensus that *this Conference has been a success* and there is no doubt that certain important recommendations have been made concerning the expansion of open learning.
My role is rather difficult, because it is impossible, within the limited time I have, to list all the conclusions and the recommendations made. Under the circumstances, I hope that my *selection of recommendations* will not be misunderstood. I am sure, however, that the publication of all the recommendations and conclusions of this Conference will complement my view of the basic points.

A number of issues have been raised, which include:
- support programmes;
- media;
- financing;
- coordination.

These issues involve:
- the industries producing the relevant technology;
- the secondary sector, i.e. the users;
- the intermediate organisations (Member States, educational institutions, radio and television organisations, specialised organisations like SATURN and the European Association of Distance Teaching Universities);
- and of course the European Commission.

Some of the experiences presented during the Conference resulted in the following realisations:

1. The Community has developed a *number of programmes* to support the development of *technology-based* tools and to assist with the implementation of these tools for distance education and professional training.

2. As well as radio and television, which have been pioneers in distance education, there are now many more *media available* which can extend and improve the efficiency of open education.

3. *Important initiatives* have been developed (like SATURN and the European Association of Distance Teaching Universities) which can provide a background and experience for the creation of a *European system of cooperation between the various institutions* offering distance learning and the users.

4. As far as financing is concerned, the need for support is obvious not only from the Community, but also from the institutions that directly benefit from the implementation of support programmes for open learning and training.

5. In terms of *coordination*, I believe it is commonly accepted that the CEC has a vital role.

There is a precedent that has worked positively and provides the basis for the Community's initiatives in educational and professional training programmes. I am referring to the directives that coordinate the activities of the regional, social and agricultural funds of the Community.
I believe that in the educational and training Community programmes we need to have a common objective, on multiple levels, and a common philosophy. Let us not forget that the Community's programmes have as their starting point the idea of a common internal market, and aim at economic and social cohesion which forms the basis for equilibrium in Community development. Furthermore, let us not forget that currently there is an added dimension: that of the common European economic landscape, which now includes Central and Eastern Europe.

The importance of the coordinating role of the CEC becomes apparent when taking into account three other issues:

1. The *identification of Community needs* in specific areas of specialisation, in conjunction with the special needs of the Member States.

2. The need for *common training programmes*, so that adaptation and translation result in lower production costs.

3. The third issue is the *support of institutions* (like special training centres) which will undertake the difficult task of promoting distance education in the peripheral regions and in the underprivileged areas of the Community.

The first two issues are related to the free movement of labour.

Commissioner Mrs Papandreou, speaking at the opening of the Conference, announced that – by the end of the year – the Commission will submit to the Council a proposal concerning the *further development of open and flexible education*, and that the recommendations of this Conference will be utilised within the proposal.
The participants of this conference have generated considerable „food for thought", and we are positive that she will fulfil her promise and will persuade her colleagues in the Commission, something she has achieved with far more difficult initiatives. The Commission which paved the road for Open Education will support her.

I am certain that the Commission and the European Parliament will take such actions so that *the Athens Conference will be the basis for the integration of a coordinated European programme for open and flexible learning.*
I am sure you will agree that we should thank the organisers. Furthermore, the organisers can be absolutely positive of the continuing and creative participation of all the delegates to the Conference.

Thank you for your attention and patience.

Address by the Minister of the Presidency, Militiadis Evert presented by Charalambos Kanelopoulos General Secretary of the National Centre of Public Administration

As a representative of the Minister of the Presidency and in my capacity as General Secretary of the National Centre of Public Administration I would like to thank all delegates for participating in this Conference and I would like to congratulate the organisers of this conference: the Greek Radio and Television Organisation and its president Professor Korsos, the Federation of Greek Industries and its president Mr Argyros, and also the SATURN Network, the Commission and particularly Commissioner Vasso Papandreou who has supported this Conference immensely.

I would like to express some of the thoughts I have, as a teacher and coordinator of training programs in the public sector whose aim is to upgrade human resources in public administration.

I believe that it is clear today that the most important factor revitalising any national economy and its public administration is our human resources. And this because the immense knowledge gained by new technologies can only be fruitful if people acquire this knowledge and accept the need for greater productivity.

Although knowledge is an important element in the development of any national economy, it does not suffice unless it is disseminated to these people that require it.

This diffusion of knowledge must reach all areas and every person in every country. Young people who want to study at university or seek vocational training in order to get a job must move to a metropolitan centre if the possibility of distance education does not exist. Furthermore, employees in various companies can utilise the services offered by distance education, if these companies want to survive the rapidly intensifying competition of the market.

Beside young people, current employees in managerial positions need distance education as do all public servants, especially in countries where there is a large number of civil servants and therefore play a role in defining the Gross National Product. This becomes evident in cases where the productivity of civil servants is not at the levels desired. In this case the use of new technologies which improve distance education need to be implemented rapidly.

Moreover, in countries whose geographical position, structure and population spread makes the movement of students to education centres frustrating and the movement of educators to regions where they are needed equally harrowing, the use of modern technologies and distance education becomes imperative so that not only companies can survive but whole regions as well.

In this respect I think that in countries like Greece, where the trend towards tertiary education is substantial, and given that many go and study overseas because existing tertiary institutions cannot accommodate demand, it is important to give the opportunity to all these young people to utilise distance education.

I feel it is evident that our country needs distance education and the possibilities it offers more than any other nation in Europe.

Furthermore, I believe that every teacher/trainer and every manager interested in upgrading the private and the public sector is ultimately interested in the future of our country and should feel the need to accept and support in every possible manner the rapid and broad implementation of distance education.

All parties involved in distance education, whether these are the manufacturers of equipment or those who produce the logistic software or even those that translate existing packages in order to begin making this knowledge readily available in remote areas, are all part of an economy that is in the forefront of development. I sincerely believe that there will be an explosive growth in this sector of the economy because everyone accepts that human resources must be upgraded and people require education and further training in order to develop.

I can assure you then that the Minister of Presidency, Mr Evert has given priority to this sector of education and that the Centre of Public Administration is very interested in developing distance education because we do not have the capability to send groups of instructors everywhere in Greece and offer training courses to those civil servants interested in gaining current information and knowledge.

With these final words, I would like to congratulate all participants for making this Conference a success and to say that I believe we have all concluded that distance education is something we should all support and cooperate with in order to achieve the impressive results we all desire.

Aristidis Kalantzakos
Minister of Labour

Please allow me to make specific mention to Mrs Papandreou because I admire her work immensely:
Commissioner, Representatives of the Council of Ministers, Ladies and Gentlemen.
I feel privileged to have been given the opportunity to give the closing address of this conference dedicated to multimedia means of communication and its applications in vocational training and more generally to the dissemination of knowledge.
We are all aware of the fact that the rapid development of science and technology has resulted in the creation of a new international dynamic whose main characteristic has been the introduction of new technologies in the production process; of new production methods or of new products.
This advance has motivated a massive change in all production variables. Nations that have not been able to respond effectively to this need for modernisation are showing signs of industrial decline, whose main characteristic is a decline in productivity.
At the same time imports are gradually replacing local production, resulting in an increase of unemployment which is the scourge of modern societies. Europe, in its majority, showed a relative slowness in adjusting to this new state of affairs with respect to its competitors. Thus, in the decade between 1977-88 it has lost precious markets both locally and internationally.
I feel that the experience we have had in the past five years, of the repercussions the advances in technology have had in employment, have not been particularly encouraging. Yet, I also believe, that these rather bleak indications should not lead us to pessimistic conclusions.
One source of optimism is the fact that all earlier technological revolutions were followed by a drastic fall in production costs. So that after a period of readjustment, that is an initial stage of adaptation, new horizons of economic activity and development were opened. This occurred in the past with the introduction of new means of transport, the development of steel mills and even the exploitation of energy sources. It has been observed that great leaps in technology have an evolutionary cycle, characterised initially by a long period of development before its positive effects can be felt in the economy.
In the second phase, the use of a new technology leads to an increase of capital gains and substantial investments. In this way, in due time, workers in developed nations not only are not marginalised, but in fact see their working conditions improve and their standard of living increase.
In the past, leaps in technology created a new landscape within which a great potential for development existed. The rate of appreciation of technological developments depends mainly, I would say, in the first instance on the capabilities of those responsible for policy planning and implementation. It also depends on the ability of the business sector and the labour force to comprehend its potential and the promptness within which they take the appropriate steps towards modernisation.
The basic condition for economic development is the re-establishment and maintenance of competitiveness of the productive mechanism. In order to achieve this we believe that a long term policy of continuous and consistent upgrading of institutions is required; the harnessing of inflation, an increase in investments in order to improve the economy's competitive edge, and the expansion of the productive forces by sector, according to their rate of development.

Ladies and gentlemen, such a strategy for developing investments must be complemented by an equivalent and combined effort to prepare the appropriate human resources. The fact that countries like Japan and Germany have the most highly developed education and training systems is no accident.
In Japan especially, the need for human resources to adapt to new technologies induces a greater percentage of young people to seek tertiary education than in Europe.
The lack of skilled professionals and the surplus of unskilled workers caused by the rapid proliferation of new technologies calls for the intervention of government bodies.

The rapid expansion of multiple means of communication or multimedia, strengthens and improves the implementation of vocational training programs, offering a wide range of tools which can be utilised in learning.

These education methods arising from the computer and microelectronic revolution, I would suggest acquire particular importance for the needs of developing training programs. They limit the barriers in gaining knowledge that standard systems of learning pose. This is particularly important for remote or less developed areas.

The achievements of telematics and information processing, for example satellite links, videotext, data base networks, laser discs etc., allow remote areas to have equal opportunities in accessing knowledge and training. The efforts made to obliterate peripheral inequalities are strengthened.

Another effect, ladies and gentlemen, that the continuous and rapid development of technology has is the increasing need of continuous and specialised training in or close to the work place. In this area of need multimedia means create tremendous possibilities. Important steps in utilising these possibilities have been taken here in Greece via national cooperation within Community initiatives. These programs of cooperation which the Commission and Mrs Papandreou personally promoted, I mean EUROFORM, HORIZON and NOW, are progressing well in Greece. Furthermore the programs that will be promoted by Greece are of high standard.

This exchange of experience and technical know-how and the development of more multimedia programs must be our main aim in order to utilise our human resources as best we can; not only at a national but at a community level as well.

Given the need for continuous and balanced development of vocational expertise and training within a common Europe, I believe that it is our duty to follow these developments closely so we can utilise the possibilities these new methods of knowledge dissemination offer.

I would like to mention at this point that the Greek government has received the message of our time and has begun a program of modernisation.

In my area of responsibility at the Ministry of Employment and in particular with regard to policies promoting vocational training and employment we have formed a policy making infrastructure which is based on a democratic and decentralised system of administration. I would like to mention the basic elements which make up this infrastructure:

1. The National Council of Vocational Training and Employment formed in 1989 in conjunction with the Peripheral and Municipal Councils which are all provided by law.

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The aim of these councils is to promote a democratic dialogue and to decentralise the decision-making process with regards to policy planning of vocational training and employment programs.

2. Another element is the formation of an institute for employment whose basic aim will be the study and processing of proposals regarding employment and vocational training policies and the training of managerial staff to implement these programs.

I would like to apologise for talking in such detail about certain issues but I feel that they are issues that are relevant to the choices we have to make both on a national and on a Community level. Furthermore, I believe that after all the presentations made, it has become apparent that we are living in an era of rapid change.

For this reason I feel honoured to be amongst you and I am happy that such an important Conference took place in Greece.

And with these remarks I would like to call this Conference closed. I hope that the recommendations made during the past two days are utilised in the best possible way in the attempt to fully utilise human resources in a common Europe.

As Minister of Labour whose task is to supervise a broad and sensitive area wherein the future of our labour force lies, I would like to assure you that with your cooperation, we are called upon to face a new challenge; that is, to live in a broader economic landscape under conditions of equal competitiveness.

At this point I would like to say that with the cooperation of our Community partners I will do whatever is possible to utilise the recommendations you have proposed at this conference in order to justify the hopes of every worker and I would say of our people in general.

Thank you.

Stelios Argyros
President of SEV, Federation of Greek Industries

Ladies and gentlemen, please allow me to express the thoughts and speculations of Greek Industry and the Greek Business world. We have come to the conclusion that the most valuable and important investment an organised company should make today is on human resources.

We can easily find equipment and we can easily build sites for our companies, but it is not easy to find an appropriate, well educated and efficient European human dynamic; and so our investments will be targeted at achieving this aim, especially in the decade we are now living in.

Obviously this is an investment targeting a European demand network, even though our consuming patterns are primarily Eastern. However, our production and the demand we are seeking is European, and so since both Greek industry and Greek companies are aiming for full membership within the European demand market we are also hoping to have great gains from the human education and training market, despite the risk. In fact expenditure in this area runs a great risk because the object of training and the tools of vocational training change with a rate greater than the rate the production processes of goods and products change. And at this point a basic question needs to be asked which involves the Greek economy in its entirety.

Are we going to approach vocational training in a gradual manner following the steps the other Community members took ten or even twenty years ago, or are we going to be bold and direct ourselves towards extremely specialised training so that we can produce goods and services which will be targeted to equally specific markets (so that Greek companies can survive)?

This is the framework the private sector is working within. The question now is what role, if any, can private initiative have with respect to vocational training programmes.

We feel that it can play an important role, at least in Greece, given that the upgrading of our public administration is a long-term prospect, and time is a very scarce resource in this country. Therefore, the solution we propose and choose, in order to have the co-operation of the European Community, is a mid-term solution. To side step the Public Service, leave it behind until it completes its modernisation program, and with the utilisation of agencies which the Community recognises, implement vocational training programs which will have immediate and substantial effect.

There is another reason why we feel that the private sector and these agencies must play an active part in planning and administering these programs; this is because the private sector measures cost and gain in a manner different from that of the public sector.

We produce wealth and consequently we are closer to the market and maybe even to the worker himself/herself. Thus we do not need to use any political or general criteria in planning programmes and so we can implement programmes which will have immediate results.

I would like to say at this point that the Community has a wavering attitude towards the private sector's participation in Community programmes. I have a creeping suspicion, if you like, that the Community does not want to deal too much with the private sector. Not because it respects the autonomy of Member States and their governments, but because its own bureaucracy – a difficult and slow bureaucracy, although a step ahead of national bureaucracies – feels that if it begins dealing with the private sector its weaknesses will become apparent and thus its size and work will be questioned. This is only a suspicion and I would like to discuss it at some other point at an appropriate level.

I now turn to the issue of recommendations. Observations are valuable, so is criticism, we always say what we do not want, what is wrong, but we never say what we want. I believe that there is a contradictory set of desires in our country. On the one hand, as I mentioned earlier, time is a resource in scarcity, which means that in order for the Greek economy to converge with the European Community – and given that vocational training plays a role in achieving this aim – we must begin a mass program to upgrade our human resources.

On the other hand, given the size of the Greek economy, in order for it to survive it must emphasise quality, quality in products, in human resources; something which cannot always be achieved if our approach is massive and planning is central. I would like to stress this contradiction because it is included in our problematic.
I believe we can overcome this barrier by utilising the technical help offered by our community partners so we can avoid having to rediscover the wheel.
There remains one last comment I would like to make, and that is that we must sell vocational training. We must sell it to the companies and we must sell it to the workers. It does not suffice to say that we have an excellent product, and we have seen many good products the past two days which have impressed many of us – others though are sceptical of their effectiveness. However, in order to sell this product, we still need to convince the working person that it will improve his/her standard of living and increase the prospect of gaining employment that has better perspectives.
For this reason I would like to reiterate the idea of selective implementation of pilot programs so we can market vocational training correctly in order to then promote massively.

In closing my speech, I would like to mention certain conditions, there may be others, which I believe will make vocational training, and in particular the type of training we have been discussing the past two days, more efficient in our country.
Firstly we must overcome the reservations of the labour market. A „conservative" market is not an easy territory for implementing such modern methods and equipment. We need specific legislation, a framework which will make the labour market flexible.
Secondly, we need, via a good marketing strategy, to prove that income is correlated to an employee's productivity and effort she/he makes to become proficient in using these new tools. If we cannot achieve this, and the employee's reaction is „flat" we will not succeed in our aim.
Thirdly, I believe that emphasis should be given to training instructors. This must be our starting point; it is a basic element of an infrastructure and utilisation of Community resources.
Finally let me say that ideologies and dogmas have no place in this endeavour. In the past there were great divisions in the international market and it was closed. One could say that knowledge was not ideologically neutral. Today, given the way knowledge is disseminated, with the means being available to everyone, knowledge is becoming ideologically neutral. Therefore we must leave dogmas and ideologies behind and gear our energies towards upgrading our human resources in order to achieve cohesion and convergence in the European Community.

Antonis Triffylis
Head of Mrs Papandreou's Cabinet

I believe that the conclusions of this Athens seminar – let us call it a seminar – were summarised concisely be Mr Romeos. so the only thing remaining for me to refer to is the message this Conference wishes to convey to the Commission. I have pin-pointed three.

The first point is that technology today gives us the ability to implement distance education and the notion of Open Universities via the use of satellites, optic fibre technology, computers and the utilisation of new technologies similar to what we have seen in the Exhibition. For example, interactive compact disk will be available in the market in a few months. I believe the technology is ready and allows us to use this technique in education and vocational training.

The presence of certain groups and networks like SATURN, EUROSTEP, EuroPACE and others who work and cooperate with Universities, institutions and organisations shows that everyone is ready to follow the path set by distance education.

The third point is – and this was said openly by some speakers and implied by others – that although the CEC and its directorates are supportive, this support is not offered in a coordinated and organised manner. Financial assistance from COMETT, ERASMUS, EUROTECHNET and DELTA seems to have ceased. Maybe the time has come for the CEC to take the initiative and centralise all these programs under the common title, Open University distance education.

I feel that these three messages are sent at an appropriate time and shows the importance of this seminar, because in the following weeks Mrs Papandreou will be presenting to the CEC with a policy paper – which I hope is approved – concerning the subject of this seminar. The aim is that this paper will constitute the basis for the talks held, till the end of the year, by the Council of Education Ministers during the Dutch presidency. Consequently these conclusions must be included in this policy paper or at least be presented appropriately to the Ministers.

Mr Romeos mentioned the problem of funding. Of course the Commissioner would be more qualified to answer, but I believe that we cannot expect further funding given the fiscal constraints in place till the end of 1992. We could – and this is the message we should send to Mrs Papandreou – make provisions for independent funding for distance education, in the following five year economic plan of the Commission.

In closing my address I would like to thank all participants who came from overseas and other cities in Greece to take part in these important discussions. I would also like to thank the Greek Radio and Television Organisation (ERT) and its president, Mr Korsos for organising this seminar, SATURN, our European ministers, Minister Kalantzakos, from whom I believe our Greek participants will expect to sensitize his departments on applications pertaining to funding those programs. I would also like to thank Mr Evert and his representative here and Commissioner Papandreou.

Prof. Dimitrios Korsos
President – Managing Director of ERT, S.A.

Delegates, ladies and gentleman, despite my desire to take part in the Conference official business, other duties did not allow me to do so. I ask you to forgive me for not taking part in the discussions and therefore being unable to offer any opinions and ideas on the issues that were referred to during the Conference.
My speech will be „closing address" to you Conference and nothing more; but believe me it comes from the bottom of my heart.
Mr Chairman, delegates, I am happy because I have been informed of the success of your Conference. There is general agreement and belief that the Conference has been a success – a hope that we all shared. Interesting ideas were expressed and useful conclusions were reached, not only during the plenary session but also in the workshop meetings and the parallel meetings that took place as well.
I say useful conclusions were reached on several issues and in particular on one issue that is extremely sensitive, that of distance training and education of all members of society in every aspect of social activity. And in particular in those areas of social development which are a pivot in our society, like education and industry.
Being an academic myself I am especially glad to see so many of my colleagues here. And as a citizen of this country which is striving towards social development I am also happy to say that the presence of representatives from the industry sector has been dynamic and fruitful.
Distance education and training is a necessary complement of conventional education. In order for it to achieve its aims it must be implemented with care and stringency and without any prejudice, dogma or any social barriers whatsoever. As the president of the Federation of Greek Industries pointed out, without any superstitions arising from prejudice or dogmas. In order for distance education to have the desired results it must be supported by the primary sectors of social activity, especially by those of education and industry. Furthermore it must support social development.
Delegates, the Greek Radio and Television organisation was partly responsible for the organisation of this Conference, but it has the sole joy of offering its hospitality. We feel that education is the „pharmakon" for the soul of man and a basic contributing factor towards social development. The Greek Radio and Television Organisation will always perform its duty – as it always has in the past – despite any problems it may have.

I wish all farewell and to our foreign delegates a safe return home.

Closing Session: Prof. Dimitrios Korsos addressing the Conference

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Friedhelm (Fred) Nickolmann
President of SATURN

At the end of this first European Multimedia Conference and Exhibition I would like to express my words of thanks firstly to all of you who have participated in this Conference and who helped to make it a success.
Then of course, words of thanks go to the institutions heavily involved in the organisation of this event:

- ERT – Greek Radio and Television – mainly responsible for the logistics and voluntarily extending excellent Greek hospitality;
- Intercai Multimedia Skills – setting up an impressive exhibition;
- Research Centre, Athens University of Economics and Business – providing local support;
- SATURN – Europe's Open Learning Network – responsible for the content of the Conference itself.

Despite the difficulties naturally arising from the preparation of such a complex European event I am very happy with the way European cooperation has been achieved.
Many people have been involved in the preparation and running of this event. I would like to mention in particular:

- the interpreters who have coped with an unfamiliar subject very well,
- the support staff working during this week nearly all day and night.

From all the people involved I would like to mention by name:

- Evi Demiri and Angeliki Barka from ERT,
- Peter Vervest and Frances Bellamy-Knights from Intercai Multimedia Skills.

I would also like to mention my colleagues from SATURN – Europe's Open Learning Network:

- Judite Nozes – Conference President,
- Harald Jansen – Conference Manager,
- Erik Sinas – SATURN National Delegate and invaluable support within Greece.

During this week Athens has been the European heart for Multimedia, Open and Distance Learning – thus following a tradition set up two and a half thousand years ago with ancient Greek culture.
This event took place in Athens, thanks to an initiative of the Commission of the European Communities/Task Force Human Resources, Education, Training and Youth, under the auspices of the Greek Ministry of National Education and Cults and the Greek Ministry of Labour, and finally with the support of SEV, the Federation of Greek Industries.
This Conference has proved how Europe is coming together. Remoteness should no longer be a disadvantage in the fields of training and education. There are many transferable concepts and products available for Multimedia, Open and Distance Teaching and Training.
Operators from the rest of Europe are ready and willing to support the development of a system of open learning, distance teaching and flexible training appropriate to Greece. The starting point could be a joint venture of European open and distance teaching Universities, together with industries and enterprises with an equal Greek participation and based on various Greek initiatives. They may work together to set up a kind of European study and training centre where there would also be facilities for demonstration and advice – not to impose an infrastructure from the outside but to develop a flexible, high quality system which specifically meets the needs and demands of Greek industry and education.
Political initiatives have been launched by Mrs Papendreou – a positive decision by the Council of Ministers is expected soon. Basic funding will be available through existing schemes from the European Communities to support such a new European initiative:
Let's follow up the impact of this first European Multimedia Conference and Exhibition and let's start now.

European Multimedia Exhibition

An Exhibition on Multimedia products was prepared by Intercai Multimedia Skills in close co-operation with the Conference organisers, which took place at the same site as the Conference itself.
Complementing the Conference the Exhibition aimed at increasing the understanding of both Conference delegates (trans-European) and local Greek visitors, of multimedia technology and its applications for education and training.
Intercai Multimedia Skills describes the objectives of the Exhibition in the Show Guide as follows:

> Not so long ago the computer took the business world by storm. Now we have widespread computing for universal business success. Indeed, no efficient and profitable company would consider doing without the distinct advantages it brings.
>
> The 1990s see that same computer being used in a new way. Multimedia is the technology. It combines the power of the computer with that of video, text, graphics and sound to convey information and to transfer knowledge. It is fast becoming the most important computing and telecommunications development.
>
> Multimedia not only answers the needs of the existing business environment by increasing productivity and revenue whilst reducing costs, but also tackles the need for the development of a skilled work force to meet ever increasing challenges.
>
> For this Exhibition, Intercai Multimedia Skills pulled together a technology arcade of leading players in the multimedia field. The aim was to show how multimedia will enhance the skills training of a European labour force by providing an interactive approach to learning. No longer the one-way passive process of traditional classroom-based training, but a stimulating two-way *active* process with people trained at their desks, step by step, thereby saving travel and subsistence costs as well as a large part of the working day.
>
> Furthermore, multimedia will help organisations make better use of its information – wherever it may be held. The increasing use of optical discs for storage will mean a team can access any information at the touch of a button. No longer ‚drowning in information, yet starved for knowledge', but fully responsive to customer's needs and those of a team to meet these needs.

In the Exhibition emphasis was placed on applications and delivery platforms appropriate to the learning needs of users and to the delivery of open and distance learning. Applications covered the following themes and exhibitors were carefully selected to ensure the correct balance of:
- on-the-job training
- on-the-job interpersonal skills training
- training the trainers
- open learning.

Products and materials presented at the Exhibition included a variety of hardware products like
- sound and videographics devices
- interactive videos
- laser disc players
- CD-ROM players
- CDI players

and others.

Examples of courseware using these technical means, but also based on a more ‚traditional' approach to students were presented, such as

- management courses
- language courses
- courses for high school students and
- a broad variety of distance teaching university programs.

These exhibits were complemented by written materials informing about technologies, courses, services and forthcoming developments in the field of Multimedia.

Exhibitors

The list of exhibitors included:

- ATKO Computer Systems
- Cambridge Training and Development (CTAD)
- Christos Axarlis Corporation
- Commission of the European Communities
  Task Force Human Resources, Education, Training and Youth
- Commodore
- Educational Video
- Elea
- European Association of Distance Teaching Universities
- IBM International Education Centre
- Interactive Information Systems (IIS)
- Interactive Language Teaching (ILT)
- Intercai Multimedia Skills
- Open University
- Philips Interactive Media Systems
- Pioneer
- Rainbow Computer (Apple Greece)
- SATURN – Europe's Open Learning Network
- Sun Microsystems
- URSA-NET
- XEBEC Multi Media Solutions

For more information, contact: Intercai Multimedia Skills
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A Multimedia Approach for Education and Training the case of EC remote areas

Conference Programme:

Thursday, September 26th, 1991

8.00 h Registration of Participants

9.30 h Opening Session

- Address by the Minister of Education, George Souflia
  Presented by Mr. Charalabopoulos,
  Secretary-General of the Greek ministry of Education
- Vasso Papandreou
  Commission of the European Communities –
  Employment, Industrial Relations and Social Affairs
- Rob Stol
  Dutch Ministry of Education,
  Presidency of the Council of Ministers of the EC
- Chair – Judite Nozes (Portugal)
  Vice President of SATURN

10.45 h Coffee break

11.00 h Plenary session

Skills needs and professional qualifications

- The general situation in Europe
  - Christian Dambrine (France)
    Délégué Général ANRT – Association Nationale de la Recherche Technique and Member of IRDAC
- The situation in Greece
  - Panayotis Anastassakos, PLANET
- Round table on the situation in other countries:
  - France – Amid Bendouba
    Délégation à la Formation Professionelle
  - Ireland – Paddy Duffy
    FAS – Foras Aiseanna Saothair
  - Italy – Livio Pescia, IRI Group
  - Portugal – Artur Pereira da Mota
    Comissão Interministerial para o Emprego
  - Spain – Paloma Refolio Abella
    Instituto Nacional de Empleo
- Chair – Xenophon Constantinidis (Greece)
  SEV, Federation of Greek Industries

43

13.00 h Lunch

15.00 h Parallel sessions – Part A

I – **State of affairs and perspectives of open university networking in Europe**

- Ulrich Battis (Germany)
  Rector of FernUniversität and President of EADTU
- Ralf Bartz, FernUniversität (Germany)
- Kevin Wilson, Open University (United Kingdom)
- Nicholas Fox, EADTU (The Netherlands)

– Chair – Coen de Vocht (TFHR)

II – **Training partnerships with enterprises – the case of SATURN**

- André Menu (France)
  Bull, SA and Chairman
  of SATURN Council of Management
- Friedhelm (Fred) Nickolmann (Germany),
  President of SATURN
- Judite Nozes (Portugal), Vice-President of SATURN
- Andrew Haldane (UK),
  British Association for Open Learning
- Glyn Martin (UK), Open University

– Chair – Armando Rocha Trindade (Portugal)
Rector of Universidade Aberta and
Deputy-Secretary General of EADTU

III – **Applications of technology to training for business needs**

- Peter Vervest (United Kingdom)
  Intercai Multimedia Skills
- Debate with:
  Jesus Rueda, IBM International Education Centre (Belgium)
  Andrew Russell, Sun Microsystems (United Kingdom)
  Simon Shaw, Cambridge Training and Development (UK)
  Patrick Friesner, Interactive Information Systems (United Kingdom)
  Peter Howell, XEBEC Multimedia Solutions (United Kingdom)

– Chair – Chris Curran (Ireland)
Director of National Distance Education Centre,
Dublin City University

16.30 h Coffee break

17.00 h **Round table**
Broadcasting companies and their role in education and training policies and initiatives

- Léa Martel – EBU – European Broadcasting Union
- Spiros Nikolopoulos – ERT S.A.(Greece)
- Mauro Gobbini – RAI (Italy)
- Lucia Jones – BBC (United Kingdom)
- Claire Poinsignon – La Sept (France)
- Maria Emília Brederode dos Santos – RTP (Portugal)
- Maev Conway Piskorski – RTE (Ireland)

– Chair – Dimitris Gemelos (Greece)
Director of the Institute of Audio-Visual Media, ERT S.A.

18.30 h End of sessions

Friday, September 27th, 1991

9.00 h **Round table**
The use of satellites for education and training; problems encountered so far and recommendations for solutions

- Lyssimachos Mavridis, EUROSTEP
- Tage Frisk, EuroPACE
- Philip Crookes, Channel e
- Dario Natoli, RAISAT
- R. Guzzardi, CUD
- Friedrich von Stachelsky, DELTA

– Chair – Brian Groombridge (United Kingdom)
University of London

10.30 h Coffee break

11.00 h **Parallel sessions – Part B**

I – **Existing models, structures and solutions in higher distance education in Europe**

- Mariano Artès-Gomez – UNED (Spain)
- Ann Wickham – National Distance Education Centre (Ireland)
- John Daniel – Open University (United Kingdom)
- Francesco Lata – Consorzio per l'Università a Distanza (Italy)
- Christiane Guillard – FIED (France)
- Armando Rocha Trindade – Universidade Aberta (Portugal)

– Chair – Marino Ballarin (Italy)

II – Training partnerships with enterprises

- Carlos Braga – FUNDETEC (Portugal)
- Yannis Zirinis – PACT (Greece)
- John Cromie – Information Technology Centre (Ireland)

– Chair – José Viana Baptista (Portugal)
Vice-President of Grupo SONAE

III – Concepts and tools in courseware production and delivery

- Freek Gastkemper – Open universiteit (The Netherlands)
- Rob Koper – Open universiteit (The Netherlands)
- Joel Greenberg – Open university (United Kingdom)
- Wolfram Laaser – FernUniversität (Germany)

– Chair – Chris Curran (Ireland)
Director of National Distance Education Centre, Dublin City University

13.00 h Lunch

15.00 h **Presentation of reports from sessions**
– General Rapporteur – Giorgios Romeos (Greece)
Vice-President of the European Parliament

15.30 h **Closing session**
– Address by the Minister of the Presidency, Mr. Militiadis Evert
presented by Charalambos Kanelopoulos
General Secretary of the National Centre of Public Administration
– Aristidis Kalantzakos
Minister of Labour
– Stelios Argyros
President of SEV, Federation of Greek Industries
– Antonis Triffylis, Head of Mrs. Papandreou's Cabinet

16.30 h End of Conference
– Dimitrios Korsos
President-Managing Director of ERT, S.A.
– Friedhelm (Fred) Nickolmann, President of SATURN
– Chair – Ricardo Charters d'Azevedo, CEC, TFHR